

# If you live near a recently burned area...

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## **Flash floods and debris flows may now be a danger.**

Once the smoke clears from a wildfire, the danger is not over!! Other hazards, such as flash floods and debris flows, now become the focus. Steep mountainsides and hillsides recently burned by wildfires are particularly susceptible to flash floods and debris flows during rainstorms. Just a short period of moderate rainfall on a burn scar can lead to flash floods and debris flows. Rainfall that is normally absorbed by vegetation can run off almost instantly. This causes creeks and drainage areas to flood much sooner during a storm, and with more water, than normal. Additionally, the soils in a burn scar are highly erodible so flood waters can contain significant amounts of mud, boulders, and vegetation. The powerful force of rushing water, soil, and rock, both within the burned area and downstream, can destroy culverts, bridges, roadways, and structures, and can cause injury or death if care is not taken.

## **Plan Ahead.**

Have a plan in place before an evacuation is ordered. If your home has been identified by the professionals as being in a high risk area for flash floods and debris flows, **the safest plan is to stay with friends or family during all rainstorms** in which a flash flood watch or warning has been declared for your area.

Make sure everyone in the family knows the plan. Identify a safe meeting place outside your neighborhood. If family members are not at home when an evacuation is ordered, plan to get together at the meeting place.

Include pets and animals in your planning. Work with the professionals to determine the best place for your animals during and after rainstorms.

Teach your children to stay away from all creeks, arroyos, drainage control channels and washes before, during and after storms. Teach all family members about the watch and warning system.

- A flash flood WATCH means flash flooding is possible in your area.
- A flash flood WARNING means a flash flood is occurring or will occur *very* soon.

Purchase a NOAA Weather Radio for All Hazards, set it up and learn how to use it. Or determine in advance how you will stay informed about for the latest flood and flash flood watches, warnings, and weather advisories.

Go to community meetings. Talk to your neighbors about their plans, and encourage them to plan to get out early.

Follow the advice of county flood control, BAER Teams and other professionals to determine how to protect your property. Sandbags and other barriers can help divert small mudflows. Remember,

however, that these small measures may be meaningless to a huge debris flow. The hillsides will gradually stabilize during the next 3 to 7 years. Until then, be very careful.

### **When it's raining...**

Plan to arrive at your safe location in a safe neighborhood before it starts raining and remain there until well after the storm. Burned logs, boulders, mud and other debris can create temporary dams which burst well after the rain has stopped. This could be hours or sometimes even days after the rain has stopped.

Be particularly alert when driving. Watch the road for collapsed pavement, mud, fallen rocks, and other hazards.

Bridges may be washed out, and culverts overtopped. When you see water across a roadway, there is no way to see whether the road under the water has been washed away. The water may be much more deep and powerful than you expect.

Do not cross flooding streams!! Turn Around, Don't Drown ®!

### **If you are in a hazardous location during a rainstorm...**

Stay alert! Many debris-flow and flood fatalities occur when people are sleeping.

Stay informed. Listen to NOAA Weather Radio, commercial radio or television, or check the Internet for the latest weather and other reports.

Be aware that intense bursts of rain may be particularly dangerous, especially after longer periods of heavy rainfall.

If you are near a stream or a channel, listen for any unusual sounds that might indicate moving debris, such as trees cracking or boulders knocking together. A trickle of flowing mud or debris may precede larger flows. Be alert for any sudden increases or decreases in water flow and for a change from clear to muddy water. Such changes may indicate debris-flow activity upstream, so be prepared to move quickly. Don't delay! Save yourself, not your belongings. Evacuate! Moving to high ground may be the safest action. Getting out of the path of a debris flow is your best protection, and at this point, there may not be time to drive to safety.

Note: The above has been adapted from the ***NOAA/USGS Demonstration Flash-Flood and Debris-Flow Early-Warning System*** and ***the USGS Landslide Hazards Program*** in hopes of developing practical advice to give to residents at risk of debris flows.